

CHAPTER 1. INTRODUCTION

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CHAPTER 1. INTRODUCTION

1.1 OVERVIEW

Part B of Title III of the Energy Policy and Conservation Act, Public Law 94-163, as amended by the National Energy Conservation Policy Act, Public Law 95-619, the National Appliance Energy Conservation Act, Public Law 100-12, the National Appliance Energy Conservation Amendments of 1988, Public Law 100-357, and the Energy Policy Act of 1992, Public Law 102-486, (the Act or EPCA), created the Energy Conservation Program for Various Consumer Products other than Automobiles. 42 U.S.C. §6291-6309.

The National Appliance Energy Conservation Act of 1987 amended the Act to impose prescriptive standards (design feature requirements) for clothes washers as part of the energy conservation program for consumer products. EPCA, §325(g), 42 U.S.C. §6295 (g). The design feature requirement that clothes washers shall have an unheated rinse option was effective for appliances manufactured on or after January 1, 1988. The Act required the Department to conduct a rulemaking by January 1, 1990, to determine if the above mentioned standards should be amended. The Act provided that any amendment to the standards would apply to products manufactured three years after the rulemaking. The Final Rule was issued on May 14, 1991, and is effective for products manufactured on or after May 14, 1994, (hereinafter referred to as the May 1991 Final Rule). 56 FR 22279. The Act also requires the Department to conduct a subsequent rulemaking no later than five years after the date of publication of the previous final rule.

Before the Department determines whether or not an energy conservation standard is economically justified, it must first solicit comments on the proposed standard. EPCA, §325 (p), 42 U.S.C. §6295 (p). Any new or amended standard is required to be designed so as to achieve the maximum improvement in energy efficiency that is technologically feasible and economically justified. EPCA, §325(o)(2), 42 U.S.C. §6295 (o)(2). After reviewing comments on the proposal, the Department must then determine that the benefits of the standard exceed its burdens based to the greatest extent practicable, on a weighing of the following seven factors:

- (1) The economic impact of the standard on the manufacturers and on the consumers of the products subject to such standard;
- (2) The savings in operating costs throughout the estimated average life of the covered product in the type (or class) compared to any increase in the price, initial charges, or maintenance expenses for the covered products that are likely to result directly from the imposition of the standard;
- (3) The total projected amount of energy, or as applicable, water, savings likely to result directly from the imposition of the standard;
- (4) Any lessening of the utility or the performance of the covered products likely to result from the imposition of the standard;

- (5) The impact of any lessening of competition, as determined in writing by the Attorney General, that is likely to result from the imposition of the standard;
- (6) The need for national energy and water conservation; and
- (7) Other factors the Secretary considers relevant.

The Department initiated a clothes washer rulemaking to determine if the standards (design feature requirements) imposed by the Act should be amended. The Department published an Advance Notice of Proposed Rulemaking (ANOPR) (53 FR 17712, May 18, 1988), a Notice of Proposed Rulemaking (NOPR) (54 FR 32744, August 9, 1989), and the May 1991 Final Rule. The May 1991 Final Rule mandated performance-based energy conservation standards for clothes washers. The standards specified a minimum energy factor (EF) for two of the five classes of clothes washers (top-loading standard and top-loading compact). The energy conservation standards in the May 1991 Final Rule are effective for products manufactured on or after May 14, 1994.

On November 14, 1994, the Department issued an ANOPR to begin the second review of energy efficiency standards for clothes washers, dishwashers and clothes dryers. The methodologies presented in this report outline analytical approaches designed to evaluate the economic impacts according to the criteria in the Act. It includes the approach for an engineering analysis of the manufacturing cost and clothes washer performance data; for forecasting the number and efficiency of products sold, for determining prices and operating expenses; for determining change in investment, revenues, and costs to manufacturers of the products; for calculating the costs and benefits to consumers, and the nation as a whole; and for assessing the environmental impacts of the proposed standards. This Technical Support Document (TSD) is intended to supplement and provide additional technical information for the concurrently released NOPR.

1.2 STRUCTURE OF THE DOCUMENT

This TSD consists of thirteen Chapters and seventeen Appendices.

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| Chapter 1 | Introduction: outlines the structure of the document. |
| Chapter 2 | Analytical Framework: describes the new rulemaking process step-by-step. |
| Chapter 3 | Marketing and Technology Assessment: characterizes the relevant product markets and existing technology options. |
| Chapter 4 | Engineering Analysis: contains detailed energy use and cost information. |
| Chapter 5 | Manufacturing Cost Assessment: determines the manufacturing cost by physically taking apart washers. |

- Chapter 6 Mark-ups for Price Determination: establishes a range of mark-ups from manufacturing cost to retail price.

- Chapter 7 Life-Cycle Cost and Payback Period: describes the effects of standards on individual purchasers and users of the appliances. It compares the life-cycle cost of appliances and other measures of consumer impact with and without the proposed standards.

- Chapter 8 Consumer Analysis: describes the affect on the utility and performance of more efficient washers as experienced by consumers. Evaluates the attributes of washers, or what consumers value in a washing machine. Also evaluated is the effect of standards on subgroups such as different household income levels.

- Chapter 9 Shipments: describes how the shipments are forecasted before and after new minimum efficiency standards.

- Chapter 10 National Energy Impacts: describes national forecast of energy consumption, efficiency of new units, units installed in households and annual appliance sales in the absence (or presence) of new regulations.

- Chapter 11 Manufacturer Impact Analysis: describes the financial impact on manufactures.

- Chapter 12 Utility Impact Analysis: determines the decrease in electricity and natural gas needed. For electricity it determines the primary energy source for electricity generation.

- Chapter 13 Employment: describes estimated changes in net national employment due to possible new clothes washer standards.

There are two separate reports that are bound in with the TSD.

Environmental Assessment: This determines the reduction in emissions due to higher efficiency standards.

Regulatory Impact Analysis: This analysis determines the impact of non-regulatory alternatives to standards.

Appendices in this report are listed below:

Appendix A List Of Clothes Washer Manufacturers

Appendix B Compact MEF Values

Appendix C Development of a Standardized Energy Test Cloth

Appendix D	Manufacturing Cost Assessment - Bill of Materials
Appendix E	Approach for Uncertainty and Variability
Appendix F	Water and Wastewater Price Analysis
Appendix G	Life-Cycle-Cost Results
Appendix H	Payback Period Results
Appendix I	Consumer Research Report
Appendix J	Clothes Washer Consumer Analysis
Appendix K	Life-Cycle-Cost Results for Consumer Subgroups
Appendix L	Payback Period Results for Consumer Subgroups
Appendix M	Supplemental Shipment Forecast Charts
Appendix N	National Energy & Water Savings Results
Appendix O	Manufacturer Interview Guide
Appendix P	Government Regulatory Impact Model (GRIM)
Appendix Q	List of Acronyms and Abbreviations
Appendix R	Life-Cycle-Cost and National Energy Savings Using the Most Current RECS 1997 and AEO 2000 Data.